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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/667,186	09/21/2000	Robert K. Jenner	1009-0100	8355

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J GRANT HOUSTON
AXSUN TECHNOLOGIES INC
1 FORTUNE DRIVE
BILLERICA, MA 01821

EXAMINER

JIMENEZ, MARC QUEMUEL

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 08/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/667,186

Applicant(s)

JENNER ET AL.

Examiner

Marc Jimenez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election of **Group I, Claims 1-26** in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. **Claim 27** is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 2, 4, 9-19, and 24-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakamiya et al. (4,833,776) in view of either one of Neff et al. (6,076,875) or Bloomberg et al. (5,562,320).

Wakamiya et al. teach a component manipulation system comprising: first **26a** and second **26b** opposed jaws for cooperatively engaging a component **1**, a first y-axis position detection system **30a** (col. 4, lines 49-53) for detecting a y-axis position of the first jaw **26a**, a second y-axis position detection system (attached to **26b**) for detecting a y-axis position of the

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second jaw **26b**, a first y-axis actuator **34** for positioning the first jaw along the y-axis **23**, and a second y-axis actuator (attached to **26b**) for positioning the second jaw along the y-axis.

Wakamiya et al. teach the invention cited above with the exception of having a first x-axis position detection system for detecting an x-axis position of the first jaw, a second x-axis position detection system for detecting an x-axis position of the second jaw, a first x-axis actuator for position the first jaw along the x-axis, and a second x-axis actuator for positioning the second jaw along the x-axis.

Neff et al. teach a first x-axis position detection system (col. 3, lines 61-62) for detecting an x-axis position of the first jaw **54**, a second x-axis position detection system (col. 3, lines 61-63) for detecting an x-axis position of the second jaw **52**, a first x-axis actuator **42** for position the first jaw along the x-axis, and a second x-axis actuator **40** for positioning the second jaw **52** along the x-axis.

Bloomberg et al. teach a first x-axis position detection system **15a** (col. 4, lines 45-46) for detecting an x-axis position of the first jaw **18**, a second x-axis position detection system **15b** (col. 4, lines 45-46) for detecting an x-axis position of the second jaw **20**, a first x-axis actuator **15a** (col. 4, lines 45-46) for position the first jaw along the x-axis, and a second x-axis actuator **15b** (col. 4, lines 45-46) for positioning the second jaw along the x-axis.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Wakamiya et al. with a first x-axis position detection system for detecting an x-axis position of the first jaw, a second x-axis position detection system for detecting an x-axis position of the second jaw, a first x-axis actuator for position the first jaw along the x-axis, and a second x-axis actuator for positioning the second jaw along the x-axis, in

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light of the teachings of either one of Neff et al. or Bloomberg et al., in order to provide accurate lateral positioning of the jaws (as suggested by Neff et al. at col. 2, lines 35-39) or in order to accurately sense the position of the jaws by providing position-sensing (as suggested by Bloomberg et al. at col. 3, lines 45-47).

Note that the first and second jaws are adapted to engage an optical component.

Note that Wakamiya et al. teach a system frame **18**, first and second stages **17a, b**, to which the respective jaws, position detection systems, and actuators are attached, jaws **26a, b** that extend downward to engage from above, and a substrate **5** stage. Note that Neff et al. teach a controller **48** and voice coil system actuators **42, 40**, the position detection system comprises an optical encoder and grating (col. 7, line 57).

5. **Claims 3, 5, 20, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakamiya et al. in view of either one of Neff et al. or Bloomberg et al. as applied to **Claims 1, 4, and 16** above, and further in view of Novak et al. (5,996,437).

Wakamiya et al./Neff et al. or Wakamiya et al./Bloomberg et al. teach the invention cited above with the exception of using air bearings between the jaws and frame. It is noted, however, that the attachment between the jaws **26a** and frame **10** is a slidably mounted (col. 4, lines 17-18) to post **27a**.

Novak et al. teach air bearings **66a-c** to provide for slidably mounted components.

It would have been obvious to one of ordinary skill in the art, at the time of the invention,

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to have provided the invention of Wakamiya et al./Neff et al. or Wakamiya et al./Bloomberg et al. with air bearings, in light of the teachings of Novak et al., in order to provide low friction sliding (as suggested by Novak et al. at col. 7, lines 43-46).

6. **Claims 6, 8 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakamiya et al. in view of either one of Neff et al. or Bloomberg et al. as applied to **Claims 1 and 16** above, and further in view of Althaus et al. (5,255,333).

Wakamiya et al./Neff et al. or Wakamiya et al./Bloomberg et al. teach the invention cited above with the exception of having a jaw heater for heating at least one of the first and second jaws.

Althaus et al. teach a jaw heater (col. 3, lines 51-64) for heating at least one of first and second jaws **13**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Wakamiya et al./Neff et al. or Wakamiya et al./Bloomberg et al. with a jaw heater for heating at least one of the first and second jaws, in light of the teachings of Althaus et al., in order to provide a means to heat a solder that is used to attach a component to a substrate (as suggested by Althaus et al. at col. 3, lines 51-64).

7. **Claims 7 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakamiky et al./Neff et al. or Wakamiky et al./Bloomberg et al. in view of Althaus et al. as applied to **Claims 6 and 22** above, and further in view of Kalina (4,214,353).

Wakamiya et al./Neff et al./Althaus et al. or Wakamiya et al./Bloomberg et al./Althaus

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teach the invention cited above with the exception of the heating being done by a laser. Instead, Althaus teaches induction heating the jaws (col. 3, lines 51-64).

Kalina teaches heating by a laser (col. 3, lines 21-24). Furthermore, Kalina teaches that laser heating is an equivalent heating means as induction heating. Therefore, because laser and induction heating are art recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute induction heating for laser heating.

Contact Information

8. Telephone inquiries regarding the status of applications or other general questions, by persons entitled to the information, should be directed to the group clerical personnel. In as much as the official records and applications are located in the clerical section of the examining groups, the clerical personnel can readily provide status information. M.P.E.P. 203.08. The Group clerical receptionist number is (703) 308-1148.

If in receiving this Office Action it is apparent to applicant that certain documents are missing, e.g., copies of references cited, form PTO-1449, form PTO-892, etc., requests for copies of such papers or other general questions should be directed to Tech Center 3700 Customer Service at (703) 306-5648, or fax (703) 872-9301 or by email to CustomerService3700@uspto.gov.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Jimenez whose telephone number is **703-306-5965**. The examiner can normally be reached on **Monday-Thursday and the second Friday of the bi-**

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week, between 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Vidovich can be reached on 703-308-1513. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

Other helpful telephone numbers are listed for applicant's benefit.

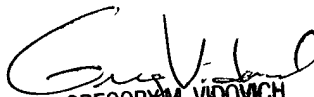
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If the information desired is not provided above, or a number has been changed, please call the general information help line below.

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MJ

August 23, 2002


GREGORY M. VIDOVICH
PRIMARY EXAMINER